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10/766,705

01/27/2004

Steffen Leonhardt

71186

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03/26/2007

MCGLEW & TUTTLE, PC

P.O. BOX 9227

SCARBOROUGH STATION

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EXAMINER

NGUYEN, HUONG Q

ART UNIT

PAPER NUMBER

3736

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/766,705

Applicant(s)

LEONHARDT ET AL.

Examiner

Helen Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,5,11,16-18,20,25-37 and 39-48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 26-37 and 39-47 is/are allowed.
- 6) ☒ Claim(s) 1,3,5,11,16-18,25 and 48 is/are rejected.
- 7) ☒ Claim(s) 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 August 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This Office Action is responsive to the amendment filed 1/8/2007. Claims 1, 16, 20, 25, and 28 are amended, overcoming the previous claim objections. Claim 38 is cancelled, also overcoming the previous claim objection. Claim 48 is new. **Claims 1, 3, 5, 11, 16-18, 20, 25-37, and 39-48** remain pending.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claim 25** is rejected under 35 U.S.C. 102(b) as being anticipated by Paeth et al (US Pat No. 5191886).

4. Paeth et al disclose an electrode belt comprising:

an electrode holder, referred to as "electrode strip" (10), said electrode holder being composed of a "substrate" (14) and "cover layer" (17), wherein at least both of said substrate portion and said cover layer are composed of a stretch material (Col.4: 42-46);

16 or more electrodes (Col.1: 45-48; Col.5: 62-64), said 16 or more electrodes being located on said electrode holder, wherein said electrodes are referred to as "gel pads" (38) (Col.6: 11-19), best seen in Figure 7A;

electrode feed lines, referred to as "conductive leads" (16), each electrode feed line having a defined length, said electrode length extending within said stretch material, said stretch

material surrounding the length of said electrode feed line, wherein said electrode feed lines (16) are surrounded by the elastic substrate (14) and cover layer (17) portion of said electrode holder and thus extend within such (Col.3: 55-60), best seen in Figures 2 and 8;

an external feed line, referred to as "connector" (22, 58), said external feed line being connected to said electrode feed lines at one or more connection sites on said electrode holder, best seen in Figures 2, 8, 9 (Col.3: 64-66; Col.7: 62-68; Col.8: 1-3).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 1, 3, 5, and 11** are rejected under 35 U.S.C. 103(a) as being unpatentable over Paeth et al (US Pat No. 5191886) in view of Bornn (US Pat No. 5353793).

7. In regards to **Claims 1**, Paeth et al discloses an electrode belt comprising:

a belt material (10) including "substrate" (14) and "cover layer" (17) (Col.3: 55-60), said belt material being elastic in some sections (Col.4: 42-46);

16 or more electrodes (Col.1: 45-48; Col.5: 62-64) on said belt material, wherein said electrodes are referred to as "gel pads" (38) (Col.6: 11-19), best seen in Figure 7A;

electrode feed lines, referred to as "conductive leads" (16), each electrode feed line having a defined length, said electrode feed lines being integrated within said belt material such that the entire length of each electrode feed line extends within said belt material, wherein said

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electrode feed lines (16) are integrated between said substrate (14) and cover layer (17) portion of said belt material and thus entirely extends within such (Col.3: 55-60), best seen in Figures 2 and 8;

a feed line, referred to as "connector" (22, 58), said electrode feed line being connected to said feed line at one or more feed points along said belt material, best seen in Figures 2, 8, 9 (Col.3: 64-66; Col.7: 62-68; Col.8: 1-3).

8. However, Paeth et al do not disclose said belt material fully surrounding a test subject to be examined over the circumference of the body. Bornn disclose an analogous electrode belt device wherein said belt material (14, 16) fully surrounds a test subject to allow accurate monitoring without sacrificing patient mobility or comfort (abst), best seen in Figure 1A.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the belt material of Paeth et al such that said belt material fully surrounds a test subject to be examined over the circumference of the body as taught by Bornn to allow greater patient mobility and comforting during testing.

9. In regards to **Claim 3**, Paeth et al disclose the electrodes (38) arranged at equally spaced locations from one another on the belt material, wherein said electrodes are arranged on the "electrode sites" (26) which are arranged at equally spaced locations from one another (Col.6: 11-19) as seen in Figures 2 and 8.

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10. In regards to **Claim 5**, Paeth et al disclose said belt material and said electrode feed lines (16, 52) form plural belt segments with one or more of said electrodes (38) arranged on individual belt segments, best seen in Figure 9 (Col.7: 44-58).

11. In regards to **Claim 11**, Paeth et al disclose said feed points are arranged symmetrically in relation to one another, wherein the presence of one feed point as recited in the limitations of Claim 1 automatically constitute symmetric arrangement in relation to one another, the belt material split into two sections of approximately equal size, as best seen in Figure 9.

12. **Claims 16-18 and 48** are rejected under 35 U.S.C. 103(a) as being unpatentable over Paeth et al in view of Bornn, further in view of Watson et al (US Pat No. 4308872).

13. In regards to **Claims 16-18**, Paeth et al disclose said belt material comprises three or more electrode feed lines (16), which extend in parallel and are connected section by section via a tube mounting piece, referred to as "substrate" (14), best seen in Figure 8 (Col.7: 17-23), said electrodes (38) arranged in the area of said tube mounting piece (14). However, Paeth et al do not explicitly disclose said electrode feed lines as hollow tubes. Watson et al teach that analogous electrode feed lines (19) are tubular in shape, best seen in Figure 2, wherein said electrode feed lines or conductors are constructed of wire surrounded by insulation (Col.4: 62-68), an effective construction that ensure electric isolation for proper use, as is also well known to one of ordinary skill in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have the electrode feed lines of Paeth et al as

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modified by Bornn have a similar construction of tubular insulation and wire, as taught by Watson et al, such that said belt material is said to be comprising of three or more hollow tubes (i.e. insulation) that accommodate the wire that makes up said electrode feed lines and thus constitute as such, to provide a widely effective construction known to enable the electric isolation necessary for such use.

14. In regards to **Claim 48**, Paeth et al disclose an electrode belt comprising:

a belt material including "substrate" (14) and "cover layer" (17) (Col.3: 55-60), said belt material being elastic in some sections (Col.4: 42-46);

16 or more electrodes (Col.1: 45-48; Col.5: 62-64) on said belt material, wherein said electrodes are referred to as "gel pads" (38) (Col.6: 11-19), best seen in Figure 7A;

electrode feed lines, referred to as "conductive leads" (16), said electrode feed lines being integrated within said belt material, wherein said electrode feed lines (16) are integrated between said substrate (14) and cover layer (17) portion of said belt material (Col.3: 55-60), best seen in Figures 2 and 8;

a feed line, referred to as "connector" (22, 58), said electrode feed line being connected to said feed line at one or more feed points along said belt material, best seen in Figures 2, 8, 9 (Col.3: 64-66; Col.7: 62-68; Col.8: 1-3).

15. However, Paeth et al do not disclose said belt material fully surrounding a test subject to be examined over the circumference of the body. Bornn disclose an analogous electrode belt device wherein said belt material (14, 16) fully surrounds a test subject to allow accurate monitoring without sacrificing patient mobility or comfort (abst), best seen in Figure 1A.

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Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the belt material of Paeth et al such that said belt material fully surrounds a test subject to be examined over the circumference of the body as taught by Bornn to allow greater patient mobility and comforting during testing.

16. Furthermore, Paeth et al as modified by Bornn do not disclose said belt material comprising three or more tubes, which extend in parallel and are connected section by section via a tube mounting piece. Paeth et al do disclose said belt material comprises three or more electrode feed lines (16) as explained above, which extend in parallel and are connected section by section via a tube mounting piece, referred to as "substrate" (14), best seen in Figure 8 (Col.7: 17-23).

17. Watson et al teach that analogous electrode feed lines (19) are tubular in shape, best seen in Figure 2, wherein said electrode feed lines or conductors are constructed of wire surrounded by insulation (Col.4: 62-68), an effective construction that ensure electric isolation for proper use, as is also well known to one of ordinary skill in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have the electrode feed lines of Paeth et al as modified by Bornn to have a similar construction of tubular insulation and wire, as taught by Watson et al, such that said belt material is said to be comprising of three or more tubes (i.e. insulation) that accommodate the wire of said electrode feed lines, which extend in parallel and are connected section by section via a tube mounting piece (14), to provide a widely effective construction known to enable the electric isolation necessary for such use.

Allowable Subject Matter

18. **Claim 20** is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

19. **Claims 26-37 and 39-47** are allowed over the prior art of record. The prior art does not disclose alone or in combination an electrode belt recited in independent Claim 26, specifically an electrode belt comprising one or more elastic tubes having electrode feed lines extending within the one or more hollow elastic tubes, wherein said electrode feed lines have a length between electrodes that is greater than a length of said elastic tubes in a non stretched state.

Response to Arguments

20. Applicant contends that Hallon et al does not teach an electrode belt that fully surrounds that circumference of a test subject. Applicant also contends that Hallon et al do not teach said electrode feed lines integrated within the belt material. While the Examiner does not necessarily agree with Applicant's arguments on those two points as explicitly explained in the previous Office Action dated 12/8/2006, the Examiner has set forth new grounds of rejection above citing at least Paeth et al and Paeth et al in combination with Bornn in an effort to advance prosecution of the instant applicant.

21. Furthermore, the allowability of **Claims 16-18** are withdrawn in view of Paeth et al and Bornn and Watson et al as elaborated above.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helen Nguyen whose telephone number is 571-272-8340. The examiner can normally be reached on Monday - Friday, 8 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Max Hindenburg can be reached on 571-272-4726. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



HQN
3/12/2007

